

**ABSTRACT OF THE DISCLOSURE**

[0051] Methods for determining the square root, reciprocal square root, or reciprocal of a number performed by a processor of a computer system. The methods produce high precision estimates without using iterative steps. In addition, the methods taught herein utilize compressed tables for the coefficient terms A, B, and C from the quadratic expression  $Ax^2 + Bx + C$ , thus minimizing hardware requirements.